

REMARKS

Claims 1-20 are pending in the current application. Claim 1 has been amended hereby.

The Examiner has objected to the abstract of the disclosure. The abstract has been amended hereby to address the Examiner's objection. The Examiner has also objected to claims 1-20 because of an informality in claim 1. More specifically, the Examiner has objected to the phrase "in particular for a shedding device". Claim 1 has been amended hereby to delete this phrase. The withdrawal of the Examiner's objections to the abstract and the claims is respectfully requested.

The Examiner has rejected claims 1-8, 13-15, and 17-20 under 35 U.S.C. § 102(b) as being anticipated by Speich (U.S. Pat. No. 6,328,076). Claim 1 of the present application calls for a thread control device for a textile machine that includes at least one thread guide member which is moveable in one direction by means of a positively designed drive and in the opposite direction by means of a nonpositive and pneumatically designed return device. The nonpositive and pneumatically designed return device includes both a cylinder/piston assembly and a valve wherein the cylinder chamber of the cylinder/piston assembly is connected to a compressed gas source via the valve. The valve called for in claim 1 includes a first valve seat and a second valve seat. A valve member having at least one throttle point is moveable between the first and second valve seats. In a basic position, the valve member is prestressed against the first valve seat by means of a spring. The throttle point is inactive and the valve member shuts off communication with the compressed gas source when the valve member is against the second valve seat.

When rejecting claim 1, the Examiner discusses Figure 41 of the '076 patent asserting that it discloses both a pneumatic cylinder/piston assembly 178a and a valve 184. See March 3,

2008 Office Action, p. 3, 4. The element identified by reference numeral 184 in Figure 41 of the '076 patent, however, is the pre-stressed piston of an actuator 178a which takes the form of a pneumatic piston/cylinder unit. See U.S. Pat. No. 6,328,076 B1 at col. 10, lines 13-19, which states:

In accordance with FIG. 41, such an actuator 178a can be constructed as a pneumatic piston/cylinder unit. A piston 184 connected to the connecting element 182 is pretensioned in the low position in the cylinder 186 by means of a return spring 188. Compressed air is supplied via the feed line 190 and the piston, and thus the control element raised. U.S. Pat. No. 6,328,076 B1, col. 10, lines 13-19.

There is no valve shown in Figure 41. In this regard it is noted that the McGraw-Hill Dictionary of Engineering, Second Edition, defines valve as “[a] device used to regulate the flow of fluid in piping systems and machinery.” Dictionary of Engineering, Second Edition, p. 596. This same dictionary defines the term piston as “[a] sliding metal cylinder that reciprocates in a tubular housing, either moving against or moved by fluid pressure.” Dictionary of Engineering, Second Edition, p. 407. (It is noted that the term piston as used in the present application while referring to an object that is either moved against or moved by fluid pressure, does not require that such object be a metal cylindrical object located in a tubular housing.)

Thus, it is clear that while a valve regulates the flow of fluid, a piston either moves against or is moved by the pressure of such fluid. In the structure depicted in Figure 41 of the '076 patent, element 184 is not only explicitly named a piston but it also functions as a piston, being moved against fluid pressure by return spring 188 and being moved by fluid pressure in the opposite direction to compress return spring 188 when the fluid pressure rises to a sufficiently high value.

Such distinctions between valves and pistons are, however, are not determinative with regard to the issue of whether Figure 41 of the '076 patent anticipates claim 1. This is because

even if piston 184 of Figure 41 could be considered a valve, then there would be no cylinder/piston assembly in Figure 41 and claim 1 of the present application calls for both a cylinder/piston assembly and a valve having a valve member for connecting the cylinder chamber of the cylinder piston assembly to a compressed gas source. Figure 41 neither discloses nor suggests such a combination of both a cylinder/piston assembly and a valve.

Moreover, even if piston 184 of Figure 41 of the '076 patent were a valve member it would not operate in the same manner as the valve member called for in claim 1 of the present application. The valve member of claim 1 is prestressed by a spring against a first valve seat while it is when the valve member is seated against the second valve seat that the throttle point is inactive and the valve member shuts off communication with the compressed gas source. In the structure shown in Figure 41 of the '076 patent, a return spring 188 biases piston 184 against a stop near the bottom of cylinder 186. An upper stop in cylinder 186 limits the upper travel of piston 184. Feed line 190 is located below the lower stop and, because it is unregulated by a valve, is always open. Assuming for *arguendo* purposes only that the upper and lower piston stops in cylinder 186 are valve seats, the return spring 188 biases piston 184 toward a position against the lower piston stop that would prevent fluid from feed line 190 from entering the cylinder chamber. This is the exact opposite of what is called for in claim 1 wherein the valve member is prestressed by a spring toward a first valve stop and it is when the valve member is against the second valve stop that the throttle point is inactive and the valve member shuts off communication with the compressed gas source. This further underscores the dissimilarity and non-analogous functionality of piston 184 of Figure 41 of the '076 patent and the valve member of claim 1.

Referring to Figure 41 of the '076 patent, the Examiner has also asserted that "[t]he gap

between the valve member and the housing wall inherently serves as a throttle point as the valve (piston) regulates the amount of pressure felt by the system.” It appears from a review of Figure 41 that the upper end of the cylinder chamber above piston 184 is in communication with the external environment via the opening through which connecting elements 182 extend for connection with control elements 140 and, therefore, would be at the ambient pressure. While machining limitations and other practical matters may prevent the contact between piston 184 and the cylinder wall from forming a perfect seal, the Applicant questions the Examiner’s assertion regarding the presence of a sufficiently large gap between the valve member and housing wall for such gap to act as a throttle point.

Thus, for these reasons, it is respectfully submitted that the ‘076 patent neither discloses nor suggests a thread control device for a textile machine having a pneumatically designed return device with both a cylinder piston assembly and a valve as called for claim 1 of the present application. Thus, the allowance of claim 1, and claims 2-8, 13-15, and 17-20 which depend therefrom, is respectfully requested.

The Examiner has rejected claims 9-12 and 16 under 35 U.S.C. § 103(a) as being unpatentable over Speich (U.S. Pat. No. 6,328,076) in view of Hindle (U.S. Pat. No. 2,425,676). Claim 9, and claims 10 and 11 which depend therefrom, all call for a thread control device that includes, *inter alia*, a “pneumatically designed return device . . . having a cylinder/piston assembly, the cylinder chamber of which is connected to a compressed gas source via a valve” and a “feed pressure chamber [having] an oil separation outlet for oil coming from the cylinder chamber.” Claim 12 calls for a thread control device that includes, *inter alia*, a “pneumatically designed return device . . . having a cylinder/piston assembly, the cylinder chamber of which is connected to a compressed gas source via a valve” and “wherein the feed pressure chamber of at

least one return device serves as a feed pressure and oil outflow device.” While claim 16 calls for a thread control device that includes, *inter alia*, a “pneumatically designed return device . . . having a cylinder/piston assembly, the cylinder chamber of which is connected to a compressed gas source via a valve” and “wherein an oil separation outlet is arranged on the closing-off part.” Thus, each of these claims 9-12 and 16 each involve a pneumatic return device having a cylinder/piston assembly connected with a compressed gas source in combination with either an oil separation outlet or an oil outflow device. Thus each of these claimed structures utilizes two separate fluid mediums, a compressed gas for driving the cylinder/piston assembly and an oil which serves a lubrication purpose.

The Hindle reference (U.S. Pat. No. 2,425,676) discloses an hydraulic shedding means. Hindle does not disclose a pneumatic return device connected with a compressed gas source. Thus, while the hydraulic cylinder/piston assemblies disclosed by Hindle do have ports for the inflow and outflow of hydraulic oil, these cylinder/piston assemblies utilize a single medium, i.e., hydraulic oil, for both driving and lubrication of the cylinder/piston assemblies. This is unlike the pneumatic cylinder/piston assemblies called for by claims 9-12 and 16 which utilize a compressed gas for driving the cylinder/piston assemblies and an oil for lubrication. The device disclosed in the Hindle reference must only address the inflow and outflow of a single medium and does not have to address the means by which one of two mediums can be separated and removed from the cylinder/piston assembly. Consequently, the disclosure of Hindle provides no teaching or suggestion with regard to the outflow of an oil in a pneumatic cylinder/piston assembly. For these reasons, it is respectfully submitted that claims 9-12 and 16 are patentable over the cited references.

It is also noted that claims 9-12 and 16 all depend from claim 1. It is respectfully

submitted that Hindle does not rectify the deficiencies of Speich discussed above with regard to claim 1 and, thus, claims 9-12 and 16 are also patentable over the cited references for the reasons presented above with regard to claim 1.

For the foregoing reasons, the allowance of claims 1-20 and the issuance of a Notice of Allowance is respectfully requested.

In the event Applicant has overlooked the need for any extension of time or payment of fee, Applicant hereby petitions therefor and authorizes that any charges be made to Deposit Account No. 16-0248, Pappas Law Offices. Should the Examiner have any further questions regarding any of the foregoing, the Examiner is respectfully invited to telephone the undersigned at (260) 426-2340.

Respectfully submitted,



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Excerpts from McGraw-Hill Dictionary
of Engineering, Second Edition (4 pages)

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